

USE SILK PARASOL TO MAP STARS

ASTRONOMERS SUGGEST NOVEL WAY TO STUDY THE CONSTELLATIONS

Stars are Embroidered on Umbrellas of Blue Hues.

Geographers have struggled long with the problem of mapping the spherical earth on a flat surface, with the result that the public has acquired a most distorted impression of relative geographical positions. It is now admitted that the earth cannot be studied properly without a globe. In the same way efforts have been made to depict the heavens upon a flat map, with the result that many of the constellations are so distorted as to be positively unrecognizable. Some time ago a writer in the Scientific American suggested that a common umbrella might serve as a celestial globe, or at least half a globe, by having the stars painted on it in their proper relative positions.

This would provide a very handy star map, which could be carried to the point of observation in folded position and then opened out to semi-spherical form representing the apparent form of the heavens. By pointing the umbrella stick at the north star, the umbrella could be readily moved to a position corresponding with the heavens at the particular time, and then it would be a simple matter to pick out the various constellations.

The idea has been further improved upon by O. F. Barcus of Shanghai, China. A dark blue silk parasol is used, and on it the stars are either painted or embroidered. Each parasol represents one-half of the celestial sphere, and by using two a map of the entire heavens is obtained. For the purpose of teaching astronomy to school children the parasol may be set in a table. The plane of the observer's horizon is represented by the table top, which has an opening cut in it, through which part of the parasol projects. The umbrella stick is pole of the heavens, and makes an angle with the surface of the table equal to the latitude of the place.

By means of clockwork the parasol is revolved at the same speed as the apparent revolution of the heavens, and a small image of the sun placed in its proper position on the parasol (as may be found by referring to a nautical almanac) shows by its meridian the time of day on the dial at the back of the parasol. If the sun's image is placed accurately the revolving parasol will show just how far north or south of the east and west points the sun rises and sets during the year and at what time before six a. m. and after six p. m. the sun appears above the horizon.

For use in the field to identify the constellations it is preferable to have the stars painted on the inner face of the umbrella. The parasol is provided with a narrow ribbon which may be used to determine the position of any point, the ribbon being divided into degrees by which declination may be reckoned. The ribbon is movable about the center stick of the parasol and indicates right ascension by hour and minute divisions marked on the rim of the parasol.

HELGOLAND IS MIGHTY

German Fortress Said to Excel Gibraltar in Strength.

Helgoland is considered by the best military authorities of Europe to be a more formidable fortress than Gibraltar. The highland of the island is cased in thick armor and there are about 400 guns, a fourth of which are sixteen or seventeen inch Krupps. Most of the guns are disappearing mountings. When they have been fired they sink into deep pits under steel cupolas where they remain until they are raised to fire again.

The gunners are specially skilled artillerymen and can bring a concentrated fire of many guns to bear upon any point where a ship may ride. The place is said to be provisioned for a three year siege, making the "back door of Germany" secure from any attack. Crowds of torpedo boats and submarines sheltered under the highland are in the harbor on the south side of the island. Above is a wireless station. Many aircraft and Zeppelins are housed there. All about Helgoland are mine fields which no enemy's ship would dare undertake to traverse. The possession of this fortress brings Germany almost 100 miles nearer England than she would be without it.

Life Belts Dangerous.

A life belt properly worn will keep anybody afloat for hours, swimmer or no swimmer, in a moderate sea; but, swimmer or no swimmer, there is no surer way of sinking than to wear a life belt upside down, as scores did to their doom on that dread May morning when the Lusitania went down. Many of the drowned were found floating feet upward—women in particular. There were life belts for all, and when worn right way up the head rested well out of the water on a sort of pillow.

But in repeating herself history has her choice among a large repertoire of previous stunts.

COULD SHAKESPEARE EVEN WRITE AT ALL

William Conway Says No, and Offers Signature as Proof.

The question of who did "write Shakespeare" does not concern William Conway who has written a monograph on his Shakespeare theories, so much as "could William Shakespeare of Stratford-on-Avon write at all?" Mr. Conway is convinced that whoever did write the plays, it was not the Bard of Avon, so called. He bases his belief on evidence presented by certain existing signatures made by William Shakespeare, and which seem to prove him to have been an illiterate man.

Mr. Conway admits that, though so evidently illiterate, Shakespeare possessed native ability, manifested by his money getting faculties, and adds the fact that as a theatrical manager Shakespeare secured to himself the plays that he did and thus stamped himself a competent man of business and a judge of public taste. But in regard to certain deficiencies exhibited by his signature, Mr. Conway, after having made a study of the characteristics of signatures, says:

"Observations of the efforts and performances of illiterate men in the laborious production of signatures has led me to the conclusion that here was a man ashamed of his inability to write, made so by his associations and the rise in his condition of life, seeking to cover his intellectual nakedness with a garment provided by a sympathizing friend.

"The sympathizing friend in this instance floated into the imagination in the form of some scrivener who set the copy so laboriously reproduced in the form of the signatures to the deed and mortgage of 1613 and to the will of 1616."

Mr. Conway refers to the original documents unearthed by Professor Wallace in 1910, and his theory is that the solicitor who drew up the papers of the mortgage and of the will is the man who made for Shakespeare a copy of his name, which the illiterate Shakespeare then followed in scribbling uncertain imitation to make the signatures to the documents. This saved him from the humiliation of having to make his X mark.

A second document put in evidence by Mr. Conway is a fragment relating to litigation in respect to certain money interests in the Globe Theatre. In this fragment appears, in two places, the name "Wilm. Shakespeare," written by the professional scrivener who prepared the case. Mr. Conway points out that Shakespeare's own signature appended is a laborious imitation, performed by a man who could not read his chirography when he had written it.

Mr. Conway is convinced that this scrivener is the man who made the copy which enabled "Wilm. Shakespeare" to execute legal papers without the humiliation of the "X mark." The rule of legal procedure required the evidence to be written out and signed by the witness before leaving the presence of the court.

"Special attention is called to this signature," says Mr. Conway, "as it is much abbreviated. The 'Great Dramatist,' who had at his command, as evidenced by the putative works, a wealth of words measuring five times the number gathered into the dictionary of the time, uses but a moiety of the characters which he had been taught to use as the ideograph to represent his name.

"We are told that he was instructed to appear later before the court for a further examination; but the record nowhere shows that he ever appeared, although the other witnesses appeared a second time. Would they be considered cynical who might surmise that the position in which Shakespeare of Stratford found himself when called upon to attach his signature to the record in open court was one of extreme embarrassment in that he could not without some exposure of ignorance use his copy to guide his pen?"—N. Y. Sun.

OFFER SPECIAL VEHICLE

Californians Have New Wagon to Carry Machinery.

For transporting machinery of great weight from one point to another in the mining districts of California, a specially designed vehicle, which is fitted with wheels approximately ten feet in diameter and drawn by a caterpillar tread tractor, is used. The wheels are provided with spokes which are set in the same manner as those of a bicycle wheel, and are placed on heavy steel axles highly arched in the middle.

The purpose of this arching is to enable the load to be suspended beneath the axles instead of being carried above them. This materially lessens the difficulty of hoisting machinery onto the bed of the wagon and also eliminates the danger of the vehicle being overturned on account of the load being carried high. The load is suspended by heavy chains.—Popular Mechanics.

New Way to Kill Sparrows.

Bert Watts of Lebanon, Ind., has discovered a new way to kill English sparrows, which are generally regarded as pests. At his home, Watts has five mouse traps nailed on top of fence posts and on a grape arbor. He puts bread or a little feed of some kind on the traps and is kept busy taking the sparrows out. In one day he killed nearly 100 of the birds.

NO TRUTH IN REPORTED ILLNESS OF HEIR TO THE RUSSIAN THRONE



THE HEIR TO THE RUSSIAN THRONE. Reports which have been persistently circulated that the young Tsarevitch, heir to the Russian throne, is seriously ill are now denied by the Russian government.

WHY DON'T YOU RIDE A BICYCLE?

They Are Returning In Favor With Spreading Knowledge That Good Exercise Is Best Health Insurance.

Campaign Starts to Sell 1,000,000 Bicycles in the United States this Year

No less an authority than Dr. Bessie Lobdell, of Chicago tells us that the girls of the land are fast developing what she terms "the slinker slouch."

We do not like this expression but are sure all will agree that the average girl of today lacks that robust, sturdy, rosy, full-blooded, health that comes from exercise in the open air.

Dr. Lobdell and other physicians say that bicycle riding is an ideal form of exercise for girls, ideal because it brings all the muscles into play, stimulates circulation of the blood, and affords pleasure every mo-

ment of the ride. This form of exercise is not only good for girls—but for boys and men.

"Why not establish health, add new joys to life by riding a wheel?"

THE HANDSOME 1916 MODELS ARE HERE AND WILL BE DISPLAYED IN SHOW ROOMS TUESDAY, FEBRUARY 29—NATIONAL BICYCLE DAY.

Do you realize there are 4,000,000 boys and girls, men and women in this country who have found the bicycle a help in doing their work? Think what the bicycle can mean to you during the delightful spring days.

THE CAT CAME BACK

The case of Rusty, a Persian cat residing at Springfield, Mass., is a good example of the homing instinct in animals. The family that owned Rusty gave him to some friends in Boston, but he didn't like his new home and after a week he was missing. Five months later he appeared at his old home in Springfield, having found his way 100 miles. He was very thin, ravenously hungry, and his once beautiful fur was matted and stuck full of burrs. He seemed delighted to be at home again.

MILLION FOR WIRELESS

St. Louis Star: An appropriation of a million dollars is asked of congress to acquire the sole rights to a system of wireless control of torpedoes from airships. As a coast defense proposition such a method of using torpedoes would beat submarines badly. But congress has never encouraged war inventions by paying inventors anything for them. Even the famous Monitor was not paid for when she fought the Merrimac. Perhaps our aroused sense of the need of defense may work a change.

A NEW AMERICAN DISCOVERY

Odd Lot Review: Columbus discovered America in 1492, America is discovering herself something like 500 years late. This country is learning for the first time how completely endowed with resources is the United States. In the beginning, this country was dependent on supplies from abroad. We have successively attained economic and political independence. Last of all has come the attainment of our financial independence. World leadership in all constructive enterprise now rests with the United States. Leadership entails responsibility. In the next stage of progress, Americans must not only work hard but think on broader lines than ever before.

CANADIAN SOLDIERS

MAY PLANT CROPS

Canadian soldiers in the dominion will be allowed leave to help plant crops next spring, under an order issued by Gen. Sir Sam Hughes minister of militia. As there are 50,000 farmers in uniform, Gen. Hughes expects many men will avail themselves of the privilege.

RIGHTS OF NATIONS DEFINED

American Institute of International Law Adopts the New Declaration.

A Pan-American "Declaration of the Rights of Nations," prepared by Secretary Lansing and Dr. James Brown Scott and adopted in executive session by the American Institute of International Law at its recent convention held in Washington under the auspices of the Pan-American Scientific Congress, is made public by Dr. Scott, president of the institute.

Although the declaration lacks the formal ratification of the twenty-one American republics, and, therefore, is not an official document, its framers believe that it correctly sets forth official views of the American commonwealths. Before the institute was called upon to consider it the declaration was submitted to and approved by the chief authorities on international law in the South American republics, including Ambassador Suarez and Dr. Alejandro Alvarez of Chile. It was unanimously adopted January 6 by the institute, whose membership of 105 is made up of five experts on international law from each of the twenty-one American republics.

The declaration, it is said, embodies the institute's conception of only elemental national rights and will be further considered at the next meeting of the institute in Havana next year. It contains five primary sections which were fashioned with the United States Declaration of Independence in mind as a model.

Following is a summary of the declaration:

First—Every nation has the right to exist, to protect and to conserve its existence; but this right neither implies the right nor justifies the act of the state to protect itself or conserve its existence by the commission of unlawful acts against innocent and non-offending states.

Second—Every nation has the right to independence in the sense that it has a right to the pursuit of happiness and is free to develop itself without interference or control from other states, provided that in so doing it does not interfere with or violate the just rights of other states.

Third—Every nation is in law and before law the equal of every other state composing the society of nations and all states have the right to claim, and according to the declaration of independence of the United States, to assume, among the powers of the earth, the separate and equal station to which the laws of nature and of nature's God entitle them.

Fourth—Every nation has the right to territory within defined boundaries and to exercise exclusive jurisdiction over this territory, and all persons whether native or foreign found therein.

Fifth—Every nation entitled to a right by the law of nations is entitled to have that right respected and protected by all other nations; for the right and duty are co-relatives, and the right of one is the duty of all to observe.

USES MAILS TO EXPORT

The recently inaugurated censorship by the British government of first-class mails to and from Germany has resulted in the discovery that Germany has been maintaining a considerable export trade with neutrals in such articles as jewelry, chemicals, laces, pictures and toys, which have been sent as first-class mail matter by way of Sweden, Denmark or Holland. Packages of this nature intercepted by the British have been marked "samples of no value."

One of the British censors showed to the Associated Press correspondent articles worth thousands of dollars, which have been seized.

NEW TERROR OF THE AIR

The new German 200-horse-power battleplanes are described as "terrors" to the smaller air-craft of the French and British. Having a speed stated to be 180 miles and hour, they can overhaul anything that flies, and they are provided with armor and small cannon.

See the Boyce Motometer and the Kellogg Motor Driven Pumps at the Toledo Automobile Show.

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